



Funding Opportunity Announcement (FOA)

Resilient Maryland Program

Fiscal Year 2021

Proposals Due By 11:59 PM EST, Friday, January 29, 2021

The Maryland Energy Administration (MEA) is pleased to announce the Fiscal Year 2021 (FY21) Resilient Maryland program. Resilient Maryland provides a multifaceted approach to enhancing the resilience of Maryland's energy infrastructure through the provision of capital for the design and implementation of distributed energy resource (DER) systems to serve Maryland's commercial and industrial businesses; vulnerable communities; and to optimize government facilities, essential infrastructure and services; and institutional operations. DER systems include community and campus-scale microgrids, resilient facility power systems, advanced combined heat and power (CHP) systems, and community resiliency hubs which provide clean, efficient, reliable energy to communities and organizations where power failure is not an option. Resilient Maryland is open to private businesses, nonprofit organizations and government entities located in Maryland. A full list of eligible entities is available in the "Eligible Entities" section of the FOA below.

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Program Description

MEA launched Resilient Maryland in FY20 as a pilot grant program to allow planning of DER systems by providing funds for system design and feasibility analysis. MEA selected fourteen (14) unique proposals from a diverse pool of applicants seeking clean, efficient, resilient energy solutions for business operations, vulnerable community energy reliability and affordability, critical and essential infrastructure securitization, and enhanced organizational sustainability. Resilient Maryland provides funds for awardees to conduct feasibility analysis, prepare preliminary engineering plans and designs, and gauge greenhouse gas reduction benefits and anticipated project roadmaps so that projects may be taken from “concept” to varying levels of design completion, including “shovel-ready.” This will provide critical proof-of-concept for organization decision makers and capital providers to greenlight and fund installations.

MEA understands that communities, businesses, and organizations are taking a holistic approach to energy management, which requires investment in comprehensive solution strategies that adhere to best practices. This approach results in efficient operations that integrate clean and sustainable energy generation assets, storage infrastructure, and control systems to both optimize cost and meet sustainability goals. Resilient Maryland is designed to respond to each stage of this holistic process and provide funds to help offset the costs associated with bringing a project from concept to varying levels of feasibility analysis and design completion based upon the needs and vision of the organization seeking the energy solution. Resilient Maryland also encourages strategic application to MEA’s various equipment and installation incentives to help offset the capital cost of the DER system assets themselves.

Resilient Maryland is designed to assist organizations in each planning stage of their projects. Program terms, program conditions, eligible projects, and eligible entities are discussed in the sections that follow. The outcomes of the Resilient Maryland program will not only assist organizations with developing successful energy resilience projects, but will also provide MEA with valuable information on common project roadblocks and DER market inefficiencies that will inform future MEA program designs to effectively respond to these issues. Doing so will help MEA in its mission to provide clean, affordable, efficient, and reliable energy to all Marylanders while also creating replicable and scalable energy solutions to drive the energy market.

Eligible Entities

- Businesses within Maryland
- Business Development Districts
- Critical Infrastructure Facilities
- State and Local Government Facilities
- Utilities
- Nonprofit Organizations
- Universities and Colleges
- Institutional Organizations
- Regional Planning Organizations
- Other Entities Seeking Energy Resilience

Definitions

The following defined terms are used throughout this FOA.

Advanced Combined Heat and Power (CHP) System: A system comprised of a combustion engine, turbine, microturbine, non-combusting fuel cell, or innovative technology (as deemed by MEA on a case-by-case basis) which utilizes natural gas, renewable biogas, biomass, hydrogen, or steam for the simultaneous production of electricity and recoverable thermal energy which is consumed by the facility or facilities for operational purposes. Systems also include heat recovery equipment, electrical switchgear, control system(s), anaerobic digestion equipment (only applicable to renewable biogas systems), and all other necessary equipment required for successful system implementation. The system must possess black start and islanding capability.

Campus: A single parcel or multiple adjacent parcels of real property located within the State of Maryland upon which at least two (2) Facilities are currently or will be fully constructed.

Community: A County, Baltimore City, incorporated or unincorporated community, or geographically-connected subset of these jurisdictions (e.g. a single city block or collection of blocks) in which the Facility or Facilities to be served by the Distributed Generation assets of the project are located.

Distributed Generation: Any behind-the-meter energy generating system, including solar photovoltaic (PV) systems, CHP systems, wind turbines, concentrated solar power, or any other electricity and/or thermal energy generating system deemed eligible by MEA.

Energy Storage System: Systems which store electrical, mechanical, chemical/electrochemical, and/or thermal energy for use as electrical or thermal energy at a later date or for a process that offsets energy use at peak times.

Facility: A single building located on a single parcel or multiple adjacent parcels of real property that is either owned or leased whole or in part by the Applicant.

Low-to-Moderate Income (LMI) Marylanders: Comprised of the following definitions:

Low Income Marylander: Marylander whose household income is at or below 175% of the federal poverty level.

Moderate Income Marylander: Marylander whose household income exceeds the Low Income Marylander threshold and is below 85% of area median income as determined by the latest [Maryland Department of Housing and Community Development](#)¹ manual [Income Limits](#)².

Microgrid: An interconnected system of (a) Distributed Generation asset(s), Advanced CHP System(s), and/or Energy Storage System(s) and associated distribution infrastructure and control system(s) which provides electricity and may provide thermal energy to a Community, Campus, or Facility. The Microgrid must be able to operate independently of the utility grid.

¹ <https://dhcd.maryland.gov/pages/default.aspx>

² https://dhcd.maryland.gov/HousingDevelopment/Documents/prhp/2019_MD_Income_Limits.pdf

Resiliency Hub: Facilities designed to provide emergency heating and cooling capability; refrigeration of temperature-sensitive medications and milk from nursing mothers; plug power for durable medical equipment (to include dialysis equipment and continuous positive airway pressure machines); plug power for charging of cell phone and computer batteries; and/or emergency lighting. A Resiliency Hub may also be a designated location (by the city, county, or State of Maryland) for the distribution of emergency services during extended grid outages. A Resiliency Hub is not a replacement for an emergency shelter as it is not required to be designed to survive extreme weather. It is also not required to have food service capabilities, showers, or locker rooms. However, an emergency shelter that does provide these services is still eligible to apply.

Resilient Facility Power System (RFPS): A Microgrid that serves a single Facility.

Funding Availability and Eligible Projects

MEA offers funding from the Resilient Maryland program to assist organizations with their projects under four (4) Areas of Interest (AOIs). Funding amounts are generally based on the following project scope, scale and complexity:

Areas of Interest & Typical Funding Amounts

1. **Community/Campus Microgrid:** Up to **\$100,000** for Planning & Design
2. **Resilient Facility Power System:** Up to **\$25,000** for Planning & Design
3. **Advanced CHP System:** Up to **\$10,000** for Planning & Design
4. **Community Resiliency Hub:** Up to **\$10,000** per hub for Planning & Design

Eligible Planning and Design Projects

A successful proposed project typically aims to produce one or more of the (5) unique project deliverables listed below. These deliverables are precisely what an organization's decision makers and capital providers typically seek when making decisions on whether to greenlight a project:

1. **Detailed Feasibility Report**
2. **Preliminary Engineering Data & Designs**
3. **20-Year Project Pro Forma Financial Model**
4. **Greenhouse Gas Reduction Report**
5. **Implementation Barriers Report**

Together, these deliverables provide the necessary information on a candidate facility's energy profile, opportunities for efficiency improvements, the proposed DER system solution strategy, expected energy production and consumption metrics, projected greenhouse gas reduction benefits, and an analysis of legal and strategic barriers to overcome in order to complete the project. More detailed descriptions of these deliverables are available in **Appendix A** to this FOA.

An Applicant may also propose a set of deliverables more tailored to the unique planning and design needs of its planned DER system. Resilient Maryland allows an Applicant to clearly specify other deliverables if those described above are either not in line with the project's vision or if additional deliverables are needed to arrive at a level of project planning and design that satisfies an Applicant's goals. In this case, the

Applicant should identify each proposed deliverable included in its project, explain why these specific deliverables are necessary and/or the most efficient way to realize successful implementation of the DER system, the “value added” of each proposed deliverable, and its necessity in achieving project objectives. See **Appendix A** to this FOA for further details.

Eligibility Requirements, Program Terms and Conditions

Additional information on eligibility requirements, terms and conditions, and proposal submission procedures for Resilient Maryland proposals can be found in **Appendix A** to this FOA.

Capital Support & Related Programs

MEA offers many different equipment and installation incentives for energy efficiency measures and clean energy technologies. These incentives can help offset the capital cost to organizations and third-party financiers for the components of the DER systems. MEA encourages each Applicant pursuing a Resilient Maryland grant for planning and design funding to consider these additional programs as their projects progress. Please note that each MEA program is unique and funds may be awarded on either a competitive (COMP) or first-come, first served (FCFS) basis.

MEA Equipment and Installation Incentives

Resiliency Hub Program (COMP): Provides funds for solar PV and associated energy storage technology to be installed at community locations that will serve as resiliency hubs. Click [here](#)³ to learn more.

Combined Heat and Power Program (FCFS): Provides funds for qualified CHP systems. Awards are calculated through a tiered \$ / kW of nameplate capacity structure, starting at \$600/kW for small systems down to \$500/kW for the largest systems. Click [here](#)⁴ to learn more.

Commercial Clean Energy Rebate Program (FCFS): Provides funding up to **\$20,000** for qualified solar PV systems, up to **\$12,000** for qualified solar thermal (water heating) systems, and up to **\$12,000** for qualified geothermal heating and cooling systems. Click [here](#)⁵ to learn more.

Parking Lot Solar PV with EV Charger Grant Program (COMP): Provides funds for parking lot/structure solar PV canopy systems that integrate electric vehicle (EV) chargers. Click [here](#)⁶ to learn more.

Commercial, Industrial, and Agricultural Program (COMP): Provides funds for energy efficiency technologies included in the project. Click [here](#)⁷ to learn more.

³ <https://energy.maryland.gov/Pages/Resiliency-Hub.aspx>

⁴ <https://energy.maryland.gov/business/Pages/MEACHP.aspx>

⁵ <https://energy.maryland.gov/business/Pages/Incentives/CleanEnergyGrants.aspx>

⁶ <https://energy.maryland.gov/business/Pages/incentives/PVEVprogram.aspx>

⁷ <https://energy.maryland.gov/business/Pages/incentives/empowermdcigp.aspx>

Low-to-Moderate Income (LMI) Energy Efficiency Program (COMP): Provides up to **100% of the total cost** (with regional caps based on geographic location) of energy efficiency technologies that either entirely or primarily benefit low-to-moderate income Marylanders. Click [here](#)⁸ to learn more.

Jane E. Lawton Conservation Loan Program (FCFS): Provides low-cost financing (no more than 1% APR) for energy efficiency and greenhouse gas reduction projects, including CHP systems. Click [here](#)⁹ to learn more.

Energy Storage Tax Credit Program (FCFS): Provides a tax credit based on the installed cost of a qualified commercial-scale energy storage system. Multiple storage technologies are eligible. Click [here](#)¹⁰ to learn more.

Program Eligibility Requirements

To be eligible for funding, an applicant to the Resilient Maryland program must meet and acknowledge the following Program Eligibility Requirements.

1. The applying entity is a party listed in this FOA in the Eligible Entities section, and the facility/facilities included in the project must be located within Maryland.
2. When applicable, the applying entity must be in Good Standing with the [Maryland State Department of Assessments and Taxation \(SDAT\)](#)¹¹.
3. An Applicant selected for a Resilient Maryland award must enter into a Grant Agreement with MEA for Resilient Maryland planning and design funds **no later than Friday, April 30, 2021.**
4. Project costs that have already been incurred or are incurred prior to Grant execution are not eligible for reimbursement.
5. The project must not be a prior recipient of a Resilient Maryland award.
6. An Applicant must propose the installation of a Microgrid, Resilient Facility Power System, Advanced CHP System, or Community Resiliency Hub to serve one or more Maryland Facility, a Campus, or a Community, as defined by this FOA in the [Definitions](#) section.
7. A Grantee must commit to forming a Project Planning Committee that includes, at minimum, a representative of the Applicant organization, and at least one representative from each entity or group receiving service from the Microgrid, Resilient Facility Power System, Advanced CHP System, or Community Resiliency Hub.
8. A proposed project that **includes a coal-fired or oil-fired** generation system will be rejected.

⁸ <https://energy.maryland.gov/govt/Pages/CleanEnergyLMI.aspx>

⁹ <https://energy.maryland.gov/Govt/pages/janeelawton.aspx>

¹⁰ <https://energy.maryland.gov/business/Pages/EnergyStorage.aspx>

¹¹ <https://dat.maryland.gov/Pages/default.aspx>

9. An Applicant must provide MEA access to (a) proposed energy resilience project site(s) prior to and after Grant selection, when deemed necessary by MEA.
10. An Applicant must agree and understand that MEA will incorporate information about the project into one or more case studies, success stories, or other publicly-accessible media, in accordance with the [Maryland Public Information Act](#)¹². Consistent with this statute, MEA will not disclose trade secrets, confidential commercial or confidential financial information.

Evaluation Criteria

Resilient Maryland applications will be evaluated on a competitive basis using the following criteria:

- **Value Proposition:** Proposal clearly explains the Community, Campus, Facility/Facilities that will be served by the planned DER system and makes a strong and detailed case for the quantifiable and qualitative benefits and values delivered by the project to the Community, Campus, Facility/Facilities, and, as applicable, the general public.
- **Greenhouse Gas Reduction:** Proposal clearly explains that the planned DER system will optimize the use of clean energy technologies to minimize the emission of greenhouse gases.
- **Energy Savings:** Proposal demonstrates a commitment to maximizing the energy savings of the Facility/Facilities through the inclusion of energy efficiency technologies to minimize load where technically and/or economically feasible. For an energy efficiency upgrade to count toward meeting this criterion, it must have been installed within previous five (5) years.
- **Energy Resilience:** Proposal demonstrates that the planned DER system will have long-term energy resilience capability. A system that can operate higher percentages of building loads for longer time periods absent of utility grid power will be rated more favorably.
- **Benefit to LMI Marylanders:** Preference will be given to a proposal that demonstrates an effort for the planned DER system to primarily benefit communities that include LMI Marylanders.
- **Applicant Contribution:** An Applicant must demonstrate a commitment to the success of the project. The proposal must demonstrate that the Applicant will provide its own or donated capital toward the project; or, if unable, will be actively involved throughout the project to assure appropriate progress and achieve success.

In order to promote geographic diversity, MEA reserves the right to allocate a percentage of program funds to proposals with planned DER systems for facilities located within any specific geographic area of the State.

¹² <https://www.marylandattorneygeneral.gov/Pages/OpenGov/pia.aspx>

Due Date and Submission Instructions

All proposals under are due by 11:59 P.M. EST on Friday, January 29, 2021.

MEA is encouraging the use of electronic communication, including applications, to streamline processing and reduce environmental impacts. If you choose to “opt out” of electronic communications for this program, please contact MEA no later than five (5) days prior to the application deadline to work on an alternative method to submit an application. Applications must be submitted no later than **January 29, 2021, 11:59 P.M. EST**, unless the Applicant has contacted MEA regarding an alternative application method and that method has been authorized in writing by MEA.

Application Packages should be submitted electronically to MEA via email to:

>>> RMP.MEA@Maryland.gov <<<

Contact Information

For more information or assistance, please visit the [MEA Resilient Maryland FY21](#)¹³ webpage or contact **Brandon Bowser, CHP & Energy Resilience Program Manager** at BrandonW.Bowser@Maryland.gov or via phone at (443) 306-0304.

¹³ <https://energy.maryland.gov/business/Pages/ResilientMaryland.aspx>

Appendix A

FY21 Resilient Maryland Program

Appendix A describes project Final Deliverables and provides guidance on submitting a successful proposal for the program. Please review Appendix A in its entirety prior to submitting an Application Package to the FY21 Resilient Maryland program.

Final Deliverables

A Resilient Maryland grant is typically awarded to a project for the completion of the following Final Deliverables, which were introduced in the Funding Availability and Eligible Projects section of this FOA and are described in detail below:

- 1. Detailed Feasibility Report:** Gauges the full feasibility of the planned DER system; provides information including, but not necessarily limited to: historic energy consumption data and trends, opportunities for energy efficiency improvements, planned DER system components and an analysis of their feasibility (multiple configurations may be considered), future modeled energy consumption of the connected loads and projected energy generation of the DER system, system cost estimations, and any immediate barriers to system implementation that require further mitigation analysis.
- 2. Preliminary Engineering Data & Designs:** At a minimum, produces preliminary engineering data regarding DER system components, sizing, configuration, etc. and preliminary system and site technical designs.
- 3. 20-Year Project Pro Forma Financial Model:** Provides 20-year lifecycle capital expenditure and operating and maintenance cost outlay and revenue stream model with model assumptions, and explanations, and payback metrics such as net present value (NPV), internal rate of return (IRR), and simple payback. Includes calculation of the weighted average cost of capital (WACC).
- 4. Greenhouse Gas Reduction Report:** Includes system lifecycle analysis of the avoided greenhouse gas emissions resulting from implementation of the planned DER system. Includes, at a minimum, avoided: carbon dioxide (CO₂), nitrous oxide (NO_x), sulfur oxide (SO_x), and volatile organic compounds (VOCs).
- 5. Implementation Barriers Report:** Provides a report that describes statutory, regulatory, legal, and strategic barriers that must be addressed to successfully install the planned DER system.

Applicants may propose custom final deliverables that have been identified as the items necessary to best assure implementation of the planned DER system. Examples of items include but are not limited to: moving from initial concept to a portfolio of preliminary DER system options; down-selecting the most

promising DER system options for further analysis; and completing final engineering and design for a DER system.

Application Procedure

A successful application package must include the documents described below:

1. A **complete** FY21 Resilient Maryland Application Form, **signed by an authorized designee of the Applicant organization**. Applications signed only by a third party (such as an Applicant's developer, contractor, vendor, etc.) will not be accepted.
2. A detailed **Project Proposal** that includes the following sections:
 - a. Executive Summary
 - b. Description of the Community, Campus, or Facilities
 - c. Description of the Energy-consuming Equipment
 - d. Energy Efficiency Measures – Installed Within the Last 5 Years and/or Planned
 - e. Description of the Microgrid, Resilient Facility Power System, Advanced CHP System, or Resiliency Hub Solution Option or Options to be Explored
 - f. Description of How Solution(s) Meet the [Evaluation Criteria](#) of this FOA
 - g. *If pursuing alternative and/or additional Final Deliverables only:* Description of Each Final Deliverable and How It Contributes to the Realization of System Implementation
 - h. Detailed Budget for Planning, Engineering, and Design
 - i. Anticipated Installation Timeline and Schedule
3. Complete IRS Form W9 for **Applicant organization**.

Once an application is complete, submit the documents to MEA consistent with the [Due Date and Submission Instructions](#) section of this FOA.

Evaluation

Each proposal that meets all eligibility requirements will be reviewed using the Evaluation Criteria included in this FOA and on a competitive basis by a Review Team comprised of MEA staff and other individuals with relevant subject matter expertise. Final award amounts are within the complete and total discretion of MEA after taking all relevant factors into consideration including, but not limited to, the quality of proposals received and the funds available to the Resilient Maryland program. Please note that MEA may, or may not, award the full amount requested by an applicant.